

ISTEP+ Spring 2009

Indiana Statewide Testing for Educational Progress Plus

Mathematics • English/Language Arts
Grade 8



Indiana Department of Education
SUPPORTING STUDENT SUCCESS

Web Version

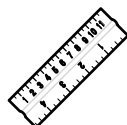
Use only a Number 2 pencil to respond to the questions in this book. Responses written in pen CANNOT be scored.



If you see this symbol, you may use your reference sheet to help solve the problem.



If you see this symbol, you may use a calculator to solve problems in the test.



If you see this symbol, use your ruler as a straightedge or to solve the problem.

Acknowledgments: CTB is indebted to the following for permission to use material in this book.

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NOTE: A correct answer **CANNOT** receive full credit if no work is shown.

Since you may receive partial credit for all problems in this test, it is important to show ALL work in the spaces provided in this book. When you see the words **Show All Work**, be sure to

- **show all the steps needed to solve the problem**
- **make your handwriting clear and easy to read**
- **write the answer on the answer line**

As you complete each problem, remember to

- ☒ **READ** the problem carefully
- ☒ **PLAN** how to solve the problem
- ☒ **SOLVE** the problem showing all steps
- ☒ **CHECK** your work

Session 1: Mathematics



1



The total weight of a box of Sammy's Pancake Mix is 2 pounds, 8 ounces. One serving size of pancakes uses 2 ounces of pancake mix and contains 200 calories.

Clark makes 4 servings of pancakes a week for breakfast.

Using one box of pancake mix, how many weeks will Clark be able to have pancakes for breakfast?

Show All Work

Answer _____ weeks

How many total calories does one box of Sammy's Pancake Mix contain?

Show All Work

Answer _____ calories

Go On



2

Mel wants to have new windows installed in his home.

A window company charges a one-time fee of \$200 plus \$75 per window installed.

Write an expression that represents the total cost to install new windows in terms of the number of windows (w) installed.

Expression _____

Complete the table below to determine the cost of having the given number of windows installed.

Number of Windows	Cost (dollars)
5	
10	
15	
20	

Show All Work

Explain why the cost to have 20 windows installed is NOT twice the cost to have 10 windows installed.

3



The Red Toy Company is determining the size of a box needed to ship 20 toys.

Each toy is in a cube-shaped package with a side length of 4 inches.

What are the dimensions, in inches, of a box that will hold exactly 20 toy packages?

Show All Work

Answer Length _____ inches

Width _____ inches

Height _____ inches

What is the volume, in cubic inches, of a box that will hold exactly 20 toy packages?

Show All Work

Answer _____ cubic inches

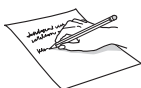


ATTENTION! Please do not leave your punchouts or reference sheet in this book.



STOP! --- STOP! --- STOP! --- STOP! --- STOP! ---

Use only a Number 2 pencil to respond to the questions in this book. Responses written in pen CANNOT be scored.



Whenever you see this icon, you will be doing a writing activity. Your writing will not be scored on your personal opinions or choices, but will be scored objectively on

- how clearly you address the prompt
- how well you organize your ideas
- how effectively you express yourself
- how consistently you use correct paragraphing, grammar, spelling, and punctuation

Be sure to use the rules of Standard English. Standard English is the English commonly used in formal writing. It does not include slang or jargon.

Session 1: English/Language Arts

1

Researching the Unknown: Your Future Career

Read the writing prompt below and complete the writing activity.

Learning about something new can be frightening, but it can also be rewarding and fun. Think about what career you would like to have after graduating from high school. How would you research this topic? What resources could you explore to gain the information you need? How could the public or school library aid you in the research? Is using the Internet a good or bad idea? Could speaking with adults in your career be helpful? What kinds of questions would you ask them?

Write an essay in which you describe how you would research your chosen career. In your writing, tell what resources you would use to research your topic. Describe how using the library, Internet, and talking to people would aid your research.

Be sure to include

- a description of an overall research plan (including the resources you would use)
- how library resources could aid your research
- the benefits and drawbacks of using the Internet
- the benefits and drawbacks of talking to people
- an introduction, a body, and a conclusion to your essay

Go On





Use the Prewriting/Planning space or additional paper for notes, lists, webs, outlines, or anything else that might help you plan your writing. Then write your essay on the lined pages. Be sure to write neatly. Using the Editing Checklist on page 14, check your writing for correct paragraphing, grammar, spelling, punctuation, and the use of Standard English.

Prewriting/Planning

NOTE: Only your writing on the lined pages in this book will be scored.



Prewriting/Planning

NOTE: Only your writing on the lined pages in this book will be scored.

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Go On



Essay

Title: _____

Go On



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Session 1

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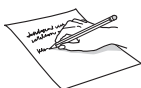
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Go On



DO NOT WRITE HERE ↓

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Session 2: English/Language Arts

For Session 2, you will read an article called “Golden Mummies” and complete Numbers 1 through 3. You may look back at the article as often as you like.

Go On



Golden Mummies

by John Noble Wilford

One hot day in 1996, the guard at an ancient temple was riding his donkey along a dusty road in the Bahariya Oasis, 230 miles southwest of Cairo, when the donkey stumbled. Its leg had slipped into a hole in the roadbed. Peering down the hole, the man was amazed to see many mummies, their heads and chests glittering with elaborate decorations of gold.

Archaeological discoveries can be like that. Archaeologists often spend years surveying, searching, and digging before they strike pay dirt. Sometimes, though, sheer luck points the way, as it did in finding the vast 2000-year-old cemetery in what is now being called the Valley of the Golden Mummies.

After a year's excavations, Egyptian archaeologists now realize what a rare and spectacular find they have. In the first four tombs they explored, they counted 105 mummies—men, women, and children. Entire families appear to have been buried together.

Some of the bodies were wrapped in plain linen, like the mummies in horror movies. But many were decorated with masks and vests covered in gold and painted scenes of their gods. Archaeologists said the mummies were remarkably well preserved, the smell of embalming resins still strong in the tombs.

"Never before have such a number of mummies been found in a single site in Egypt," said Zahi Hawass, director of the Bahariya excavations. He estimated that the entire cemetery, extending over two square miles, might yield as many as 10,000 mummies. All the archaeologists were delighted to find that for once they had beaten the looters to the scene.



Writing in the magazine *Archaeology*, Hawass described his first impressions of the find. "I could not believe that such beautiful specimens existed," he said. "The eyes of some gazed at me as if they were alive."

The mummy of a woman arrested his gaze. She was wearing a crown over four rows of red curls. A gilded¹ mask extended down over her chest. Images of cobras and the children of gods were painted on the mummy case.

The tombs were cut into sandstone bedrock. The entrance of one tomb was a hall eight feet long. This led to a "room of handing-over," where the family delivered the mummy for transfer from the world of the living to the world of the dead. Beyond that were chambers where the mummies were laid out in rows or, in one case, in stacks.

For archaeologists, the goal of an excavation is not simply to find treasure but also to learn about the people who left the treasure behind. The tombs at Bahariya Oasis were made after the time of the great pharaohs and during the early years of Roman rule over Egypt. (Roman rule began around 30 B.C. and lasted until 330 A.D.) The mummified bodies, the painted gods, and the architecture of the tombs show that the people of the oasis still clung to the funeral traditions from the earlier age of the pharaohs. But the red curls on the crowned mummy are a Roman hairstyle, a sign that Rome had also touched their lives.

Excavations in the Valley of the Golden Mummies have only begun. But archaeologists already know the tombs have much to tell us about the lives of Romanized Egyptians and their religious beliefs. "It's going to be very exciting," said Roger Bagnall, a classics professor at Columbia University.

¹**gilded:** covered with a thin layer of gold



1

What information from the article is meant to convince the reader that the discovery at the Bahariya Oasis is impressive? Support your answer with details from the article.

2

What descriptions and techniques does the author use to make this article more interesting for the reader? Support your answer with details from the article.



3

What can archaeologists learn by examining the cemeteries filled with mummies? Support your answer with details from the article.

STOP! STOP! STOP! STOP! STOP!



ISTEP + Mathematics Reference Sheet

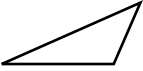
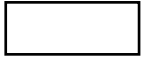



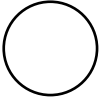


Figure	Formulas for Area (A) and Circumference (C)	
Triangle 	$A = \frac{1}{2}bh$	Area = $\frac{1}{2} \times$ base \times height
Rectangle 	$A = lw$	Area = length \times width
Trapezoid 	$A = \frac{1}{2}h(b_1 + b_2)$	Area = $\frac{1}{2} \times$ height \times sum of bases
Parallelogram 	$A = bh$	Area = base \times height
Square 	$A = s^2$	Area = side \times side
Circle 	$A = \pi r^2$ $C = 2\pi r$	Area = $\pi \times$ square of radius Circumference = $2 \times \pi \times$ radius $\pi \approx 3.14$ or $\frac{22}{7}$

Figure	Formulas for Volume (V) and Surface Area (SA)	
Rectangular Prism 	$V = lwh$ $SA = 2lw + 2hw + 2lh$	Volume = length \times width \times height Surface Area = $2(\text{length} \times \text{width}) + 2(\text{height} \times \text{width}) + 2(\text{length} \times \text{height})$
Cylinder 	$V = \pi r^2 h$ $SA = 2\pi r^2 + 2\pi rh$	Volume = $\pi \times$ square of radius \times height Surface Area = $2 \times \pi \times$ square of radius $+ 2 \times \pi \times$ radius \times height

Conversions

1 foot = 12 inches

1 yard = 3 feet

1 mile = 5,280 feet

1 mile = 1,760 yards

1 pound = 16 ounces

1 ton = 2,000 pounds

1 minute = 60 seconds

1 hour = 60 minutes

1 day = 24 hours

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 meter = 1000 millimeters

1 meter = 100 centimeters

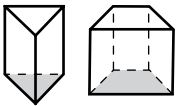
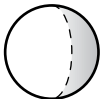


1 kilometer = 1000 meters

1 gram = 1000 milligrams

1 kilogram = 1000 grams

1 liter = 1000 cubic centimeters

1 liter = 1000 milliliters

Figure	Formulas for Volume (V) and Surface Area (SA)		
General Prisms 	$V = Bh$	Volume = area of base \times height Surface Area = sum of the areas of the faces	$\pi \approx 3.14$ or $\pi \approx \frac{22}{7}$
Sphere 	$V = \frac{4}{3}\pi r^3$ $SA = 4\pi r^2$	Volume = $\frac{4}{3} \times \pi \times$ cube of radius Surface Area = $4 \times \pi \times$ square of radius	
Right Circular Cone 	$V = \frac{1}{3}\pi r^2 h$	Volume = $\frac{1}{3} \times \pi \times$ square of radius \times height	
Regular Pyramid 	$V = \frac{1}{3}Bh$	Volume = $\frac{1}{3} \times$ area of base \times height	

Slope-Intercept Form

$$y = mx + b$$

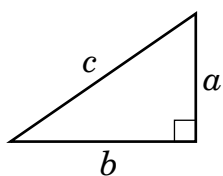
where m = slope and b = y -intercept

Simple Interest Formula

$$I = prt$$

where I = interest, p = principal, r = rate, and t = time in years

Pythagorean Theorem



$$a^2 + b^2 = c^2$$

Temperature Formulas

$$^{\circ}\text{C} = \frac{5}{9}(F - 32)$$

$$^{\circ}\text{Celsius} = \frac{5}{9} \times (^{\circ}\text{Fahrenheit} - 32)$$

$$^{\circ}\text{F} = \frac{9}{5}C + 32$$

$$^{\circ}\text{Fahrenheit} = \frac{9}{5} \times ^{\circ}\text{Celsius} + 32$$

Distance Formula

$$d = rt$$

where d = distance, r = rate, and t = time

**DO
NOT
MARK
ON THIS
PAGE**

Applied Skills Assessment

Mathematics • English/Language Arts

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